

## AMENDMENTS TO THE CLAIMS

This following listing of claims replaces all previous versions of the claims in this application.

### Listing of Claims

1. **(Currently amended)** An isolated polynucleotide comprising:
  - a) a first nucleic acid sequence encoding a CD8  $\alpha$ -chain polypeptide comprising a CD8  $\alpha$ -chain extracellular domain;
  - b) a second nucleic acid sequence encoding a therapeutic molecule of interest; and
  - c) transcription control elements and translational control elements for directing separate expression of said first and said second nucleic acid sequences.
2. **(Currently amended)** The polynucleotide according to claim 1, wherein said CD8  $\alpha$ -chain polypeptide comprises all or a functional portion of a human CD8  $\alpha$ -chain.
3. **(Canceled)**
4. **(Currently amended)** The polynucleotide according to claim 1 or 2, wherein said CD8  $\alpha$ -chain polypeptide consists essentially of an extracellular domain of said CD8  $\alpha$ -chain and a transmembrane domain.
5. **(Previously presented)** The polynucleotide according to claim 4, wherein said transmembrane domain is a CD8  $\alpha$ -chain transmembrane domain.
6. **(Currently amended)** The polynucleotide according to claim 3 or 4, wherein said transmembrane domain is a synthetic transmembrane domain.
7. **(Previously presented)** The polynucleotide according to claim 1, wherein said therapeutic molecule of interest is selected from the group consisting of hemoglobin- $\beta$ , GATA-binding protein, d-aminoevulinate synthase, glucose-6-phosphate-dehydrogenase, Coagulation

Factor VIII, Coagulation Factor XI, cystic fibrosis transmembrane conductance regulator, ornithine carbamoyl transferase,  $\alpha$ -L-iduronidase, iduronate-2-sulfatase,  $\beta$ -lucosidase,  $\alpha$ -galactosidase, galactosylceramidase, acid  $\alpha$ -glucosidase, hexamidase A, phenylalanine hydroxylase, collagen type IV,  $\alpha$ 5, Bloom Sundrome Gene Product, and low density lipoprotein receptor.

8. **(Currently amended)** An expression vector comprising the polynucleotide according to ~~any one of claims 1~~ or to claim 7.

9. **(Previously presented)** The expression vector according to claim 8, wherein said vector is selected from the group consisting of a recombinant adenovirus, a recombinant retrovirus, a recombinant adeno-associated virus, and a recombinant herpes virus.

10. **(Previously presented)** The expression vector according to claim 9, wherein said vector is replication defective.

11. **(Currently amended)** An expression vector according to claim 8 for expression in a target cell, wherein said expression of said CD8  $\alpha$ -chain ~~polypeptide~~ by said target cell inhibits an immune response against vector-associated antigens.

12. **(Withdrawn)** A method for inhibiting an immune response against vector-associated antigens expressed by a target cell comprising contacting said target cell with said vector, wherein said vector comprises the polynucleotide according to claim 1, whereby said first and second nucleic acids sequences are expressed, whereby said expressed CD8  $\alpha$ -chain is associated with the cell membrane of said target cell, and whereby a host immune response against said target cell is diminished as compared to the immune response against a target cell without the CD8  $\alpha$ -chain encoding nucleic acid sequence.

13. **(Canceled)**

14. **(Withdrawn)** The method according to claim 12 wherein said vector is a viral

expression vector selected from the group consisting of a recombinant adenovirus, a recombinant retrovirus, a recombinant adeno-associated virus, and a recombinant herpes virus.

15. **(Withdrawn)** The method according to claim 12 wherein said therapeutic molecule of interest is selected from the group consisting of hemoglobin- $\beta$ , GATA-binding protein, d-aminoevalinate synthase, glucose-6-phosphate-dehydrogenase, Coagulation Factor VIII, Coagulation Factor XI, cystic fibrosis transmembrane conductance regulator, ornithine carbamoyl transferase,  $\alpha$ -L-iduronidase, iduronate-2-sulfatase, -glucosidase,  $\alpha$ -galactosidase, galactosylceramidase, acid  $\beta$ -glucosidase, hexamidase A, phenylalanine hydroxylase, collagen type IV,  $\alpha 5$ , Bloom Sundrome Gene Product, and low density lipoprotein receptor.

16-17. **(Canceled)**

18. **(Currently amended)** An expression vector according to claim 8 for expression in a target cell, wherein said expression of said CD8  $\alpha$ -chain polypeptide inhibits an immune response against said expression vector.

19. **(Currently amended)** An improved viral expression vector having reduced immunogenicity comprising a non-viral nucleic acid consisting essentially of a nucleic acid sequence encoding a CD8  $\alpha$ -chain polypeptide comprising a CD8  $\alpha$ -chain extracellular domain and a nucleic acid encoding for a therapeutic molecule of interest, wherein said CD8  $\alpha$ -chain and said therapeutic molecule are separately expressed.

20. **(New)** An isolated polynucleotide comprising:  
a) a first nucleic acid sequence encoding a CD8  $\alpha$ -chain comprising a CD8  $\alpha$ -chain extracellular domain, wherein the CD8  $\alpha$ -chain is not a fusion protein;  
b) a second nucleic acid sequence encoding a therapeutic molecule of interest; and  
c) transcription control elements and translational control elements for directing expression of said first and said second nucleic acid sequences.

21. **(New)** The polynucleotide according to claim 20, wherein said CD8  $\alpha$ -chain

comprises all or a functional portion of a human CD8  $\alpha$ -chain.

22. **(New)** The polynucleotide according to claim 20 or 21, wherein said CD8  $\alpha$ -chain consists essentially of an extracellular domain of said CD8  $\alpha$ -chain and a transmembrane domain.

23. **(New)** The polynucleotide according to claim 22, wherein said transmembrane domain is a CD8  $\alpha$ -chain transmembrane domain.

24. **(New)** The polynucleotide according to claim 22, wherein said transmembrane domain is a synthetic transmembrane domain.

25. **(New)** The polynucleotide according to claim 20, wherein said therapeutic molecule of interest is selected from the group consisting of hemoglobin- $\beta$ , GATA-binding protein, d-aminoevulinate synthase, glucose-6-phosphate-dehydrogenase, Coagulation Factor VIII, Coagulation Factor XI, cystic fibrosis transmembrane conductance regulator, ornithine carbamoyl transferase,  $\alpha$ -L-iduronidase, iduronate-2-sulfatase,  $\beta$ -lucosidase,  $\alpha$ -galactosidase, galactosylceramidase, acid  $\alpha$ -glucosidase, hexamidase A, phenylalanine hydroxylase, collagen type IV,  $\alpha$ 5, Bloom Sundrome Gene Product, and low density lipoprotein receptor.

26. **(New)** An expression vector comprising the polynucleotide according to claim 20 or to claim 25.

27. **(New)** The expression vector according to claim 26, wherein said vector is selected from the group consisting of a recombinant adenovirus, a recombinant retrovirus, a recombinant adeno-associated virus, and a recombinant herpes virus.

28. **(New)** The expression vector according to claim 27, wherein said vector is replication defective.

29. **(New)** An expression vector according to claim 26 for expression in a target cell,

wherein said expression of said CD8  $\alpha$ -chain by said target cell inhibits an immune response against vector-associated antigens.

30. (New) An expression vector according to claim 26 for expression in a target cell, wherein said expression of said CD8  $\alpha$ -chain inhibits an immune response against said expression vector.

31. (New) An improved viral expression vector having reduced immunogenicity comprising a non-viral nucleic acid consisting essentially of a nucleic acid sequence encoding a CD8  $\alpha$ -chain comprising a CD8  $\alpha$ -chain extracellular domain and a nucleic acid encoding for a therapeutic molecule of interest, wherein said CD8  $\alpha$ -chain is not a fusion protein.